EBERLINE SERVICES

0058423

H1939

November 8, 2002

Ms. Joan Kessner
Bechtel Hanford Inc.
3350 George Washington Way
Richland, WA 99352
MSIN: H0-25

Reference: **P.O. #630**
Eberline Services R2-10-090-7376, SDG H1939

Dear Ms. Kessner:

Enclosed is the data report for three other solid samples designated under SAF No. B00-055 received at Eberline Services on October 22 and 25, 2002. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

Melissa C. Mannion
Program Manager

MCM

Enclosure: Data Package

Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
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1.0 GENERAL

Bechtel Hanford Inc. (BHI) Sample Delivery Group H1939 was composed of three other solid samples designated under SAF No. B00-055 with a Project Designation of: 100-NR-1 TSD Sites R.A. Sampling – Other Solid. The data is in units of picoCurie per sample (pCi/smpl.)

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist. The results were transmitted to BHI via e-Fax on November 8, 2002.

2.0 ANALYSIS NOTES

2.1 Total Strontium Analyses

No problems were encountered during the course of the analyses.

2.2 Isotopic Plutonium Analyses

No problems were encountered during the course of the analyses.

2.3 Americium-241 Analyses

No problems were encountered during the course of the analyses.

Case Narrative Certification Statement

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

Melissa Mannion — 11/8/02

Melissa C. Mannion
Program Manager

Date

E B E R L I N E S E R V I C E S / R I C H M O N D
SAMPLE DELIVERY GROUP H1939

SDG	7376
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. 630
Case no	SDG_H1939

S U M M A R Y D A T A S E C T I O N

T A B L E O F C O N T E N T S

Melissa Mannion
Prepared by

Melissa Mannion
Reviewed by

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	11/08/02

EBERLINE SERVICES/RICHMOND

SDG 7376
Contact Melissa C. Mannion

SAMPLE DELIVERY GROUP H1939

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG H1939

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/08/02

ABOUT THE DATA SUMMARY SECTION

DUPLICATES

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

SAMPLE SUMMARY

SDG 7376
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG H1939

CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	LAB SAMPLE ID	SAF NO	CHAIN OF CUSTODY	COLLECTED
J006K0	100N	FILTERS		R210090-01	B00-055	B00-055-12	10/15/02 12:20
J006K1	100N	FILTERS		R210090-02	B00-055	B00-055-12	10/15/02 14:30
J006K2	100N	FILTERS		R210090-03	B00-055	B00-055-13	10/21/02 14:20
Method Blank		FILTERS		R210090-05	B00-055		
Lab Control Sample		FILTERS		R210090-04	B00-055		
Duplicate (R210090-01)	100N	FILTERS		R210090-06	B00-055		10/15/02 12:20

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CS
Version 3.06
Report date 11/08/02

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

QC SUMMARY

SDG 7376
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG H1939

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7376	B00-055-12	J006K0	FILTERS	100.0	0.17 g		10/22/02	7	R210090-01	7376-001
		J006K1	FILTERS	100.0	0.18 g		10/22/02	7	R210090-02	7376-002
	B00-055-13	J006K2	FILTERS	100.0	0.19 g		10/25/02	4	R210090-03	7376-003
		Method Blank	FILTERS						R210090-05	7376-005
		Lab Control Sample	FILTERS						R210090-04	7376-004
		Duplicate (R210090-01)	FILTERS	100.0	0.17 g		10/22/02	7	R210090-06	7376-006

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form QVD-QS
Version 3.06
Report date 11/08/02

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

PREP BATCH SUMMARY

SDG 7376
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG H1939

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Alpha Spectroscopy												
AM	FILTERS	Americium-241 in Filters	7041-190	5.0	3			1	1	1/1		
PU	FILTERS	Plutonium, Isotopic in Filters	7041-190	5.0	3			1	1	1/1		
Beta Counting												
SR	FILTERS	Total Strontium in Filters	7041-190	10.0	3			1	1	1/1		

Duplicates and Matrix Spikes are those with original (Client) sample in this Sample Delivery Group.
Blank and LCS planchets are those in the same preparation batch as some Client, Duplicate or Spike sample.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 11/08/02

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

WORK SUMMARY

SDG 7376
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG H1939

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
J006K0			R210090-01	7376-001	AM		11/06/02	11/08/02	MCM	Americium-241 in Filters
100N		FILTERS	10/15/02	7376-001	PU		11/08/02	11/08/02	MCM	Plutonium, Isotopic in Filters
B00-055-12	B00-055		10/22/02	7376-001	SR		11/07/02	11/08/02	MCM	Total Strontium in Filters
J006K1			R210090-02	7376-002	AM		11/06/02	11/08/02	MCM	Americium-241 in Filters
100N		FILTERS	10/15/02	7376-002	PU		11/08/02	11/08/02	MCM	Plutonium, Isotopic in Filters
B00-055-12	B00-055		10/22/02	7376-002	SR		11/07/02	11/08/02	MCM	Total Strontium in Filters
J006K2			R210090-03	7376-003	AM		11/06/02	11/08/02	MCM	Americium-241 in Filters
100N		FILTERS	10/21/02	7376-003	PU		11/08/02	11/08/02	MCM	Plutonium, Isotopic in Filters
B00-055-13	B00-055		10/25/02	7376-003	SR		11/07/02	11/08/02	MCM	Total Strontium in Filters
Method Blank			R210090-05	7376-005	AM		11/06/02	11/08/02	MCM	Americium-241 in Filters
		FILTERS		7376-005	PU		11/08/02	11/08/02	MCM	Plutonium, Isotopic in Filters
	B00-055			7376-005	SR		11/07/02	11/08/02	MCM	Total Strontium in Filters
Lab Control Sample			R210090-04	7376-004	AM		11/06/02	11/08/02	MCM	Americium-241 in Filters
		FILTERS		7376-004	PU		11/08/02	11/08/02	MCM	Plutonium, Isotopic in Filters
	B00-055			7376-004	SR		11/07/02	11/08/02	MCM	Total Strontium in Filters
Duplicate (R210090-01)			R210090-06	7376-006	AM		11/06/02	11/08/02	MCM	Americium-241 in Filters
100N		FILTERS	10/15/02	7376-006	PU		11/08/02	11/08/02	MCM	Plutonium, Isotopic in Filters
	B00-055		10/22/02	7376-006	SR		11/07/02	11/08/02	MCM	Total Strontium in Filters

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
AM	B00-055	Americium-241 in Filters	AMCMISO_IE_PLATE_AEA	3			1	1	1		6
PU	B00-055	Plutonium, Isotopic in Filters	PUISO_PLATE_AEA	3			1	1	1		6
SR	B00-055	Total Strontium in Filters	SRTOT_SEP_PRECIP_GPC	3			1	1	1		6
TOTALS				9			3	3	3		18

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 11/08/02

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H1939

R210090-05 **Method Blank**

METHOD BLANK

SDG 7376	Client/Case no Hanford	SDG H1939	
Contact Melissa C. Mannion	Contract No. 630		
Lab sample id R210090-05	Client sample id Method Blank		
Dept sample id 7376-005	Material/Matrix	FILTERS	
	SAF No B00-055		

ANALYTE	CAS NO	RESULT pCi/smpl	2σ ERR (COUNT)	MDA pCi/smpl	RDL pCi/smpl	QUALI-FIERS	TEST
Total Strontium	SR-RAD	-0.201	1.5	3.2	1.0	U	SR
Plutonium 238	13981-16-3	0	0.31	1.2	1.0	U	PU
Plutonium 239/240	PU-239/240	0	0.31	1.2	1.0	U	PU
Americium 241	14596-10-2	-0.297	0.20	0.76	1.0	U	AM

100-NR-1 TSD Sites R.A. Smpl.-Solid

QC-BLANK 43047

METHOD BLANKS
Page 1
SUMMARY DATA SECTION
Page 7

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 11/08/02

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

R210090-04 Lab Control Sample

LAB CONTROL SAMPLE

SDG 7376 Client/Case no Hanford SDG H1939

Contact Melissa C. Mannion Case no No. 630

Lab sample id R210090-04 Client sample id Lab Control Sample

Dept sample id 7376-004 Material/Matrix FILTERS

SAF No B00-055

ANALYTE	RESULT pCi/smpl	2σ ERR (COUNT)	MDA pCi/smpl	RDL pCi/smpl	QUALI-FIERS	TEST	ADDED pCi/smpl	2σ ERR pCi/smpl	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Total Strontium	250	11	3.8	1.0		SR	224	9.0	112	81-119	80-120
Plutonium 238	127	17	1.8	1.0		PU	134	5.4	95	79-121	80-120
Plutonium 239/240	143	18	1.8	1.0		PU	145	5.8	99	79-121	80-120
Americium 241	99.6	8.8	0.79	1.0		AM	105	4.2	95	84-116	80-120

100-NR-1 TSD Sites R.A. Smpl.-Solid

QC-LCS 43046

LAB CONTROL SAMPLES
Page 1
SUMMARY DATA SECTION
Page 8

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 11/08/02

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

R210090-06 J006K0

DUPLICATE

SDG	7376			Client/Case no	Hanford SDG H1939
Contact	Melissa C. Mannion			Case no	No. 630
	DUPLICATE		ORIGINAL		
Lab sample id	R210090-06	Lab sample id	R210090-01	Client sample id	J006K0
Dept sample id	7376-006	Dept sample id	7376-001	Location/Matrix	100N FILTERS
		Received	10/22/02	Collected/Weight	10/15/02 12:20 0.17 g
% solids	100.0	% solids	100.0	Custody/SAF No	B00-055-12 B00-055

ANALYTE	DUPLICATE pCi/smpl	2σ ERR (COUNT)	MDA pCi/smpl	RDL pCi/smpl	QUALIFIERS	TEST	ORIGINAL pCi/smpl	2σ ERR (COUNT)	MDA pCi/smpl	QUALIFIERS	RPD %	3σ PROT TOT LIMIT
Total Strontium	38.9	3.6	2.4	1.0		SR	39.6	3.5	2.2		2	29
Plutonium 238	5.79	1.9	1.2	1.0		PU	4.75	1.8	1.1		20	75
Plutonium 239/240	35.8	5.4	1.2	1.0		PU	35.1	5.2	1.1		2	33
Americium 241	27.6	3.7	0.79	1.0		AM	28.9	4.5	1.0		5	33

100-NR-1 TSD Sites R.A. Smpl.-Solid

QC-DUP#1 43048

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 11/08/02

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H1939

R210090-01 **J006K0**

DATA SHEET

SDG	7376	Client/Case no	Hanford SDG H1939
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R210090-01	Client sample id	J006K0
Dept sample id	7376-001	Location/Matrix	100N FILTERS
Received	10/22/02	Collected/Weight	10/15/02 12:20 0.17 g
% solids	100.0	Custody/SAF No	B00-055-12 B00-055

ANALYTE	CAS NO	RESULT pCi/smpl	2σ ERR (COUNT)	MDA pCi/smpl	RDL pCi/smpl	QUALI-FIERS	TEST
Total Strontium	SR-RAD	39.6	3.5	2.2	1.0		SR
Plutonium 238	13981-16-3	4.75	1.8	1.1	1.0		PU
Plutonium 239/240	PU-239/240	35.1	5.2	1.1	1.0		PU
Americium 241	14596-10-2	28.9	4.5	1.0	1.0		AM

100-NR-1 TSD Sites R.A. Smpl.-Solid

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/08/02

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H1939

R210090-02 **J006K1**

DATA SHEET

SDG	7376	Client/Case no	Hanford SDG H1939
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R210090-02	Client sample id	J006K1
Dept sample id	7376-002	Location/Matrix	100N FILTERS
Received	10/22/02	Collected/Weight	10/15/02 14:30 0.18 g
% solids	100.0	Custody/SAF No	B00-055-12 B00-055

ANALYTE	CAS NO	RESULT pCi/smpl	2σ ERR (COUNT)	MDA pCi/smpl	RDL pCi/smpl	QUALI-FIERS	TEST
Total Strontium	SR-RAD	77.8	3.4	1.1	1.0		SR
Plutonium 238	13981-16-3	8.38	1.7	0.53	1.0		PU
Plutonium 239/240	PU-239/240	60.4	6.0	0.53	1.0		PU
Americium 241	14596-10-2	64.4	5.6	0.44	1.0		AM

100-NR-1 TSD Sites R.A. Smpl.-Solid

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/08/02

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

R210090-03 J006K2

DATA SHEET

SDG	7376	Client/Case no	Hanford	SDG H1939
Contact	Melissa C. Mannion	Contract	No. 630	
Lab sample id	R210090-03	Client sample id	J006K2	
Dept sample id	7376-003	Location/Matrix	100N	FILTERS
Received	10/25/02	Collected/Weight	10/21/02 14:20	0.19 g
% solids	100.0	Custody/SAF No	B00-055-13	B00-055

ANALYTE	CAS NO	RESULT pCi/smpl	2σ ERR (COUNT)	MDA pCi/smpl	RDL pCi/smpl	QUALI-FIERS	TEST
Total Strontium	SR-RAD	-0.182	0.60	1.2	1.0	U	SR
Plutonium 238	13981-16-3	0.558	0.48	0.61	1.0	U	PU
Plutonium 239/240	PU-239/240	7.41	1.7	0.61	1.0		PU
Americium 241	14596-10-2	2.04	0.76	0.47	1.0		AM

100-NR-1 TSD Sites R.A. Smpl.-Solid

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/08/02

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

Test AM Matrix FILTERS
SDG 7376
Contact Melissa C. Mannion

METHOD SUMMARY

AMERICIUM-241 IN FILTERS
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H1939

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Americium 241
Preparation batch 7041-190					
J006K0	R210090-01			7376-001	28.9
J006K1	R210090-02			7376-002	64.4
J006K2	R210090-03			7376-003	2.04
BLK (QC ID=43047)	R210090-05			7376-005	U
LCS (QC ID=43046)	R210090-04			7376-004	ok
Duplicate (R210090-01)	R210090-06			7376-006	ok
Nominal values and limits from method				RDLs (pCi/smpl)	1.0
100-NR-1 TSD Sites R.A. Smpl.-Solid					

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/smpl	ALIQ smp	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7041-190	2σ prep error 5.0 %			Reference Lab Notebook 7041 pg. 190												
J006K0	R210090-01			1.0	0.100			87		128			22	11/05/02	11/06	SS-011
J006K1	R210090-02			0.44	0.200			84		156			22	11/05/02	11/06	SS-011
J006K2	R210090-03			0.47	0.200			70		157			16	11/05/02	11/06	SS-015
BLK (QC ID=43047)	R210090-05			0.76	0.100			97		158				11/05/02	11/06	SS-043
LCS (QC ID=43046)	R210090-04			0.79	0.100			90		157				11/05/02	11/06	SS-042
Duplicate (R210090-01) (QC ID=43048)	R210090-06			0.79	0.100			86		158			22	11/05/02	11/06	SS-044
Nominal values and limits from method				1.0	0.100			20-105		100	100		180			

PROCEDURES	REFERENCE	
	AMCMISO_IE_PLATE_AEA	
	CP-070	Soil Dissolution, < 1.0g Aliquot, rev 5
	CP-963	Americium and Curium in Water and Dissolved Samples by Extraction Chromatography, rev 3
	CP-008	Heavy Element Electroplating, rev 7

AVERAGES ± 2 SD FOR 6 SAMPLES			
	MDA	0.71	± 0.43
	YIELD	86	± 18

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/08/02

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

Test PU Matrix FILTERS
SDG 7376
Contact Melissa C. Mannion

METHOD SUMMARY

PLUTONIUM, ISOTOPIC IN FILTERS
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H1939

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Plutonium 238	Plutonium 239/240
Preparation batch 7041-190						
J006K0	R210090-01			7376-001	4.75	35.1
J006K1	R210090-02			7376-002	8.38	60.4
J006K2	R210090-03			7376-003	U	7.41
BLK (QC ID=43047)	R210090-05			7376-005	U	U
LCS (QC ID=43046)	R210090-04			7376-004	ok	ok
Duplicate (R210090-01)	R210090-06			7376-006	ok	ok
Nominal values and limits from method				RDLs (pCi/smpl)	1.0	1.0
100-NR-1 TSD Sites R.A. Smpl.-Solid						

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MAX MDA pCi/smpl	ALIQ smp	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7041-190	2σ prep error 5.0 %			Reference Lab Notebook 7041 pg. 190												
J006K0	R210090-01			1.1	0.100			92	96				24	11/08/02	11/08	SS-067
J006K1	R210090-02			0.53	0.200			92	96				24	11/08/02	11/08	SS-068
J006K2	R210090-03			0.61	0.200			80	95				18	11/08/02	11/08	SS-069
BLK (QC ID=43047)	R210090-05			1.2	0.100			81	96					11/08/01	11/08	SS-072
LCS (QC ID=43046)	R210090-04			1.8	0.100			56	96					11/08/01	11/08	SS-070
Duplicate (R210090-01) (QC ID=43048)	R210090-06			1.2	0.100			87	95				24	11/08/02	11/08	SS-073
Nominal values and limits from method				1.0	0.100			20-105	100	100			180			

PROCEDURES	REFERENCE	
	PUISO_PLATE_AEA	
	CP-070	Soil Dissolution, < 1.0g Aliquot, rev 5
	CP-941	Plutonium in Water and Dissolved Samples by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 7

AVERAGES ± 2 SD FOR 6 SAMPLES			
	MDA	1.1	± 0.93
	YIELD	81	± 27

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/08/02

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1939

Test SR Matrix FILTERS
SDG 7376
Contact Melissa C. Mannion

METHOD SUMMARY

TOTAL STRONTIUM IN FILTERS
BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG H1939

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Total Strontium
Preparation batch 7041-190					
J006K0	R210090-01			7376-001	39.6
J006K1	R210090-02			7376-002	77.8
J006K2	R210090-03			7376-003	U
BLK (QC ID=43047)	R210090-05			7376-005	U
LCS (QC ID=43046)	R210090-04			7376-004	ok
Duplicate (R210090-01)	R210090-06			7376-006	ok
Nominal values and limits from method				RDLs (pCi/smpl)	1.0
100-NR-1 TSD Sites R.A. Smpl.-Solid					

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/smpl	ALIQ smp	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7041-190 2σ prep error 10.0 % Reference Lab Notebook 7041 pg. 190																
J006K0	R210090-01			2.2	0.150			87		100			23	11/07/02	11/07	GRB-207
J006K1	R210090-02			1.1	0.300			85		100			23	11/07/02	11/07	GRB-205
J006K2	R210090-03			1.2	0.300			82		100			17	11/07/02	11/07	GRB-208
BLK (QC ID=43047)	R210090-05			3.2	0.100			85		100				11/07/02	11/07	GRB-203
LCS (QC ID=43046)	R210090-04			3.8	0.100			77		100				11/07/02	11/07	GRB-206
Duplicate (R210090-01) (QC ID=43048)	R210090-06			2.4	0.150			80		100			23	11/07/02	11/07	GRB-204
Nominal values and limits from method				1.0	0.100					100			180			

PROCEDURES	REFERENCE	
	SRTOT_SEP_PRECIP_GPC	
	CP-070	Soil Dissolution, < 1.0g Aliquot, rev 5
	CP-502	Strontium in Solids, rev 6

AVERAGES ± 2 SD FOR 6 SAMPLES			
MDA	2.3	±	2.1
YIELD	83	±	7

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/08/02

SDG 7376
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG H1939

SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

* LAB SAMPLE ID is the lab's primary identification for a sample.

* DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.

* CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.

* QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

  QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

* All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/08/02

SDG 7376
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG H1939

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

* The preparation batches are shown in the same order as the Method Summary Reports are printed.

* Only analyses of planchets relevant to the SDG are included.

* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.

* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

  These qualifiers should be reviewed as follows:

  X Some data has been manually entered or modified. Transcription errors are possible.

  P One or more results are 'preliminary'. The data is not ready for final reporting.

  2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

  Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/08/02

EBERLINE SERVICES/RICHMOND

SDG 7376
Contact Melissa C. Mannion

SAMPLE DELIVERY GROUP H1939

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG H1939

WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.

* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.

* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.

* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.

* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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SDG 7376
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REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG H1939

DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

  The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

U The RESULT is less than the MDA (Minimum Detectable Activity).

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Protocol Hanford
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DATA SHEET

If the MDA is blank, the ERROR is used as the limit.

J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.

H Similar to 'L' except the recovery was high.

P The RESULT is 'preliminary'.

X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.

2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

SDG 7376
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG H1939

DATA SHEET

* An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA may not be a good estimate of the 'real' minimum detectable activity.

* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.

* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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REPORT GUIDE

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Contract No. 630
Case no SDG H1939

LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.

* An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

  An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

* REC (Recovery) is RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The error of RESULT, including that introduced by rounding the result prior to printing.

     If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

  2. The error of ADDED.

  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

* The second limits are protocol defined upper and lower QC limits for the recovery.

* The recovery is underlined if it is outside either of these ranges.

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Protocol Hanford
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DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

  If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTs are underlined.

* The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTs divided by their average expressed as a percent.

  If both RESULTs are less than their MDAs, no RPD is computed and a '-' is printed.

  For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

* The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTs prior to printing.

  If this limit is labeled TOT, it includes the preparation error in the RESULTs. If labeled CNT, it does not.

  This value reported for this limit is at most 999.

* The second limit for the RPD is the larger of:

  1. A fixed percentage specified in the protocol.

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GUIDE, cont.

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DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

* The RPD is underlined if it is greater than either limit.

* If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

  Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

* The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

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MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

  If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTs are underlined.

* An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

  An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

* REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The errors of the two RESULTs, including those introduced by rounding them prior to printing.

     If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

  2. The error of ADDED.

  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

* The second limits are protocol defined upper and lower QC limits

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MATRIX SPIKE

for the recovery.

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

* The recovery is underlined (out of spec) if it is outside either of these ranges.

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REPORT GUIDE

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Contract No. 630
Case no SDG H1939

METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

* Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

  There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

* The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

  The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

* If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

  The J and X flags are as on the data sheet.

* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data'

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GUIDE, cont.

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Contract No. 630
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METHOD SUMMARY

means no amount ADDED was specified. 'LOW' and 'HIGH' correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.

* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

  MDAs are underlined if greater than the printed RDL.

* Aliquots are underlined if less than the nominal value specified for the method.

* Prepareation factors are underlined if greater than the nominal value specified for the method.

* Dilution factors are underlined if greater than the nominal value specified for the method.

* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

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GUIDE, cont.

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Contract No. 630
Case no SDG H1939

METHOD SUMMARY

* Count times are underlined if less than the nominal value specified for the method.

* Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.

* Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.

* Days Held are underlined if greater than the holding time specified in the protocol.

* Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1÷3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant

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GUIDE, cont.

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Contract No. 630
Case no SDG H1939

METHOD SUMMARY

results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included. No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/08/02

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B00-055-12	Page 1 of 1
Collector: B. MILLS / C. LANDAS	Company Contact: J.D. Fancher; Telephone No.: 313-9123	Project Coordinator: TRENT, SJ	Price Code: 7K 9C; Data Turnaround: ~~21 Day~~ 15 day TAT
Project Designation: 100-NR-1 TSD Sites R. A. Sampling - Other Solid	Sampling Location: 100N H1939 (7376)	SAF No.: B00-055	Air Quality: ☐
Ice Chest No.: ERC 96-079	Field Logbook No.: EL-1524-1; COA: R11NX3YF20	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: A030 015	Bill of Lading/Air Bill No.: 9EE 039C	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially Radioactive

Special Handling and/or Storage

None

Preservation	None										
Type of Container	Petri Dish										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										
Sample No.	Matrix *	Sample Date	Sample Time								
J006K0	OTHER SOLID	10.15.02	1220	X			AIR-NC-02-0502				
J006K1	OTHER SOLID	10.15.02	1430	X			AIR-NC-02-0503				

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: C. Landas CJ	10-21-02/1140	Received By/Stored In: SJ GALE	102102 1140
Relinquished By/Removed From: SJ GALE	102102 1245	Received By/Stored In: FED EX	
Relinquished By/Removed From: Fed Ex	10/22/02 10:00	Received By/Stored In:	10:00 pm 10/22/02
Relinquished By/Removed From:	Date/Time	Received By/Stored In:	Date/Time
Relinquished By/Removed From:	Date/Time	Received By/Stored In:	Date/Time
Relinquished By/Removed From:	Date/Time	Received By/Stored In:	Date/Time

SPECIAL INSTRUCTIONS

(1) ~~Gross Alpha; Gross Beta; Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add on (Americium-241);~~ Isotopic Plutonium; Americium-241; Strontium-89,90 -- Total Sr; ~~Nickel-63; Tritium -- H3~~

Matrix *
S=Soil
SD=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-055-13	Page 1 of 1
Collector: M. Lowary	Company Contact: J.D. Fancher	Telephone No.: 313-9123	Project Coordinator: TRENT, SJ	Price Code: ~~7K~~ 90 Data Turnaround
Project Designation: 100-NR-1 TSD Sites R. A. Sampling - Other Solid	Sampling Location: 100N H1939 (7376)		SAF No.: B00-055	Air Quality ☐ 15/15 day TAT
Ice Chest No.: ERC-01-019	Field Logbook No.: EL-1524-1	COA: R11NX3YF20	Method of Shipment: FED EX	
Shipped To: TMA/RECRA	Offsite Property No.: A030418		Bill of Lading/Air Bill No.: 7906 1657 9077	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially Radioactive

SEE Affidavit Report

Special Handling and/or Storage

None

Preservation	None										
Type of Container	Petri Dish										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										
Sample No.	Matrix *	Sample Date	Sample Time								
J006K2	OTHER SOLID	10-21-02	1420	X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J Snoza for M Lowary	10/24/02 1020	R Fadl	10-24-02 1020
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
ERC R Fadl R Fahlberg	10-24-02 1020	Fed Ex	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	10/25/02 9:20		10/25/02 9:20
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ~~Gross Alpha, Gross Beta, Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155), Gamma Spec. Add-on (Americium-241)~~, Isotopic Plutonium; Americium-241; Strontium-89,90 -- Total Sr; ~~Nickel-63, Tritium-H3.~~ AM 102302

Matrix *: S=Soil; SE=Sediment; SO=Solid; SL=Sludge; W = Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

EBERLINE SERVICES **ANALYTICAL SERVICES GROUP**

Richmond, CA Laboratory

SAMPLE RECEIPT CHECKLIST

SAMPLE RECEIPT

Client: Hanford Date/Time received 10/22/02 10:00 am

CoC No. B00-055-12

Container I.D. No. ERL 96-079 Requested TAT (Days) 21 Day TAT P.O. Received Yes [ ] No [ ]

INSPECTION

1.	Custody seals on shipping container intact?	Yes [Y]	No [ ]	N/A [ ]
2.	Custody seals on shipping container dated & signed?	Yes [Y]	No [ ]	N/A [ ]
3.	Custody seals on sample containers intact?	Yes [Y]	No [ ]	N/A [ ]
4.	Custody seals on sample containers dated & signed?	Yes [Y]	No [ ]	N/A [ ]
5.	Packing material is:	Wet [ ]	Dry [Y]	
6.	Number of samples in shipping container: 2			
7.	Number of containers per sample: 1 (Or see CoC _____)			
8.	Paperwork agrees with samples?	Yes [Y]	No [ ]	
9.	Samples have: Tape [ ] Hezard labels [ ] Rad labels [ ] Appropriate sample labels [Y]			
10.	Samples are: In good condition [Y] Leaking [ ] Broken Container [ ] Missing [ ]			
11.	Describe any anomalies: No TAT			
13.	Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____			
14.	Received by [signature] Date: 10/22/02 Time: 10:00 AM			

Customer Sample No.	cpm	mr/hr	wipe	Customer Sample No.	cpm	mr/hr	wipe

Ion Chamber Ser. No. _____ Calibration date _____

Alpha meter Ser. No. _____ Calibration date _____

Survey Meter Ser. No. _____ Calibration date _____